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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/235,242      01/22/99      FRIEDRICH

W      48746

EXAMINER
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HM12/0705

KEIL & WEINKAUF  
1101 CONNECTICUT AVENUE N W  
WASHINGTON DC 20036

STOCKTON, L	
ART UNIT	PAPER NUMBER

1626

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UNITED STATES DEPARTMENT OF COMMERCE  
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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Paper No. 22

Application Number: 09/235,242  
Filing Date: January 22, 1999  
Appellant(s): Wolfgang Friedrich et al.

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Herbert B. Keil  
For Appellant

**EXAMINER'S ANSWER**

This is in response to appellant's brief on appeal filed June 19, 2000.

**(1) *Real Party in Interest***

A statement identifying the real party in interest is contained in the brief.

**(2) *Related Appeals and Interferences***

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

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**(3) Status of Claims**

The statement of the status of the claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Invention**

The summary of invention contained in the brief is deficient because Appellants state that the invention is a process for producing a  $\beta$ -alkoxyamine as the final product. However, the instant claimed process is for producing a  $\gamma$ -alkoxyamine (see instant independent claim 6).

**(6) Issues**

The appellant's statement of the issues in the brief is correct.

**(7) Grouping of Claims**

Appellant's brief includes a statement that claim 6 is an independent process claim and claims 2-5 are process claims dependent from claim 6. Appellants state that none of the claims have been argued separately.

**(8) Claims Appealed**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(9) Prior Art of Record**

The following is a listing of the prior art of record relied upon in the rejection of claims under appeal.

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4,617,154	GREEN	10-1986
5,196,589	O'LENICK, JR.	3-1993
4,231,956	SULLIVAN, III	11-1980

(10) *Grounds of Rejection*

The following ground(s) of rejection are applicable to the appealed claims:

*Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 2-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Green {U.S. Pat. 4,617,154} in view of Sullivan, III et al. {U.S. Pat. 4,231,956} and O'Lenick, Jr. et al. {U.S. Pat. 5,196,589}.

Appellants claim a process of making a  $\gamma$ -alkoxyamine by reacting an  $\alpha,\beta$ -unsaturated nitrile with an alcohol in the presence of a basic catalyst (ie., a diazabicycloalkene catalyst) to form a  $\beta$ -alkoxynitrile followed by hydrogenation of the  $\beta$ -alkoxynitrile in the presence of a hydrogenation catalyst (ie., Raney nickel) to obtain a  $\gamma$ -alkoxyamine.

Green teaches a process of making a  $\beta$ -alkoxynitrile or a  $\beta$ -alkylthionitrile by reacting an  $\alpha,\beta$ -unsaturated nitrile with an alcohol in the presence of a diazabicycloalkene catalyst (see columns 1 and 2 and Example 12 in column 6). However, Green does not teach the total scope of Appellants' diazabicycloalkene catalysts or Appellants' claimed hydrogenation step.

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Sullivan, III et al. teach additional diazabicycloalkene catalysts useful in the preparation of a  $\beta$ -alkylthionitrile (column 5, lines 13-25).

O'Lenick, Jr. et al. teach a process of making a  $\beta$ -alkoxynitrile by reacting an  $\alpha,\beta$ -unsaturated nitrile with an alcohol in the presence of a basic catalyst (see column 2, lines 1-9 and column 4, lines 35-42). O'Lenick, Jr. et al. further teach that a  $\beta$ -alkoxynitrile (the products also taught by Green) can undergo a hydrogenation process, without separation or neutralization of the basic catalyst, in the presence of a suitable catalyst (ie., Raney nickel) to form a  $\gamma$ -alkoxyamine (column 2, lines 1-9 and column 4, lines 48-53).

The claimed process is no more than a selective combination of prior art teachings done in a manner obvious to one of ordinary skill in the art since each step of the process appears to be relatively complete in itself and there is no indication of an interaction between steps of such a type that would lead one of ordinary skill in the art to doubt that a substitution of alternative steps known to the art could be made.

One skilled in the art would have been motivated to utilize the process of Green, especially in view of the teachings of Sullivan, III et al. and O'Lenick, Jr. et al., to arrive at the instant claimed process with the expectation of obtaining a  $\gamma$ -alkoxyamine. Therefore, the claimed process would have been suggested to one skilled in the art.

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**(11) Response to Argument**

Appellants argue that since Green discloses that the diazabicycloalkene can catalyze the reverse reaction to yield the original alcohol and unsaturated nitrile, that the catalyst should be removed prior to any subsequent reaction. In response, Green states that the process can be run continuously and that the alcohol, and not the catalyst, can be removed by distillation (column 4, lines 30-37).

Appellants argue that O'Lenick et al. teach the use of a stable free radical compound to eliminate free radical polymerization of the acrylonitrile and when stable free radical compounds are not used, only poor yields are obtained. In response, O'Lenick, Jr. et al. teach that a  $\beta$ -alkoxynitrile can undergo a hydrogenation process, without separation or neutralization of the basic catalyst (column 4, lines 35-53). However, the catalyst used in O'Lenick et al. is different than the catalyst used in the instant claimed process. Further, as noted by Appellants, O'Lenick et al. teach that the desired product would be obtained absent the presence of a stable free radical compound (column 1, 25-30).

Appellants argue that Sullivan et al. do not appear to add anything significant to the disclosure of Green. In response, the Sullivan et al. reference was applied to show that a class of diazabicycloalkene catalysts (see the catalyst genus in column 5) are used in processes of making a  $\beta$ -alkylthionitrile. Green teaches three diazabicycloalkene catalysts whereas Sullivan et al. teach a broader genus of diazabicycloalkene catalysts (see column 5).

In conclusion, Appellants claim a process of making a  $\gamma$ -alkoxyamine by reacting an  $\alpha,\beta$ -unsaturated nitrile with an alcohol in the presence of a basic catalyst (ie., a

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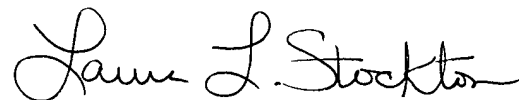
diazabicycloalkene catalyst) to form a  $\beta$ -alkoxynitrile followed by hydrogenation of the  $\beta$ -alkoxynitrile in the presence of a hydrogenation catalyst (ie., Raney nickel) to obtain a  $\gamma$ -alkoxyamine. Green teaches a process of making a  $\beta$ -alkoxynitrile and a  $\beta$ -alkylthionitrile by reacting an  $\alpha,\beta$ -unsaturated nitrile with an alcohol in the presence of a diazabicycloalkene catalyst (see columns 1 and 2). Since Green does not teach Appellants' claimed hydrogenation step, the O'Lenick et al. reference was applied to teach that a  $\beta$ -alkoxynitrile (the products also taught by Green) can undergo a hydrogenation process in the presence of a suitable catalyst (ie., Raney nickel) to form a  $\gamma$ -alkoxyamine (column 2, lines 1-9 and column 4, lines 48-53). Further, the Sullivan et al. reference was applied to show that a class of diazabicycloalkene catalysts (see the catalyst genus in column 5) are used in a process of making a  $\beta$ -alkylthionitrile. Appellants have argued the applied references individually instead of considering the combined teachings in the applied prior art references.

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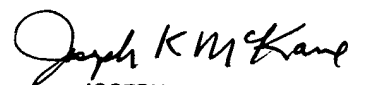
For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,



LAURA L. STOCKTON  
PRIMARY EXAMINER

lls  
June 29, 2000



JOSEPH K. MCKANE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1600  
*Conferee*

KEIL & WEINKAUF  
1101 CONNECTICUT AVENUE NW  
WASHINGTON, DC 20036